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United States
Department of
Agriculture

Prepared by
Food Safety
and Inspection
Service

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Food News for Consumers

August 1981

Secretary Block Reorganizes Department

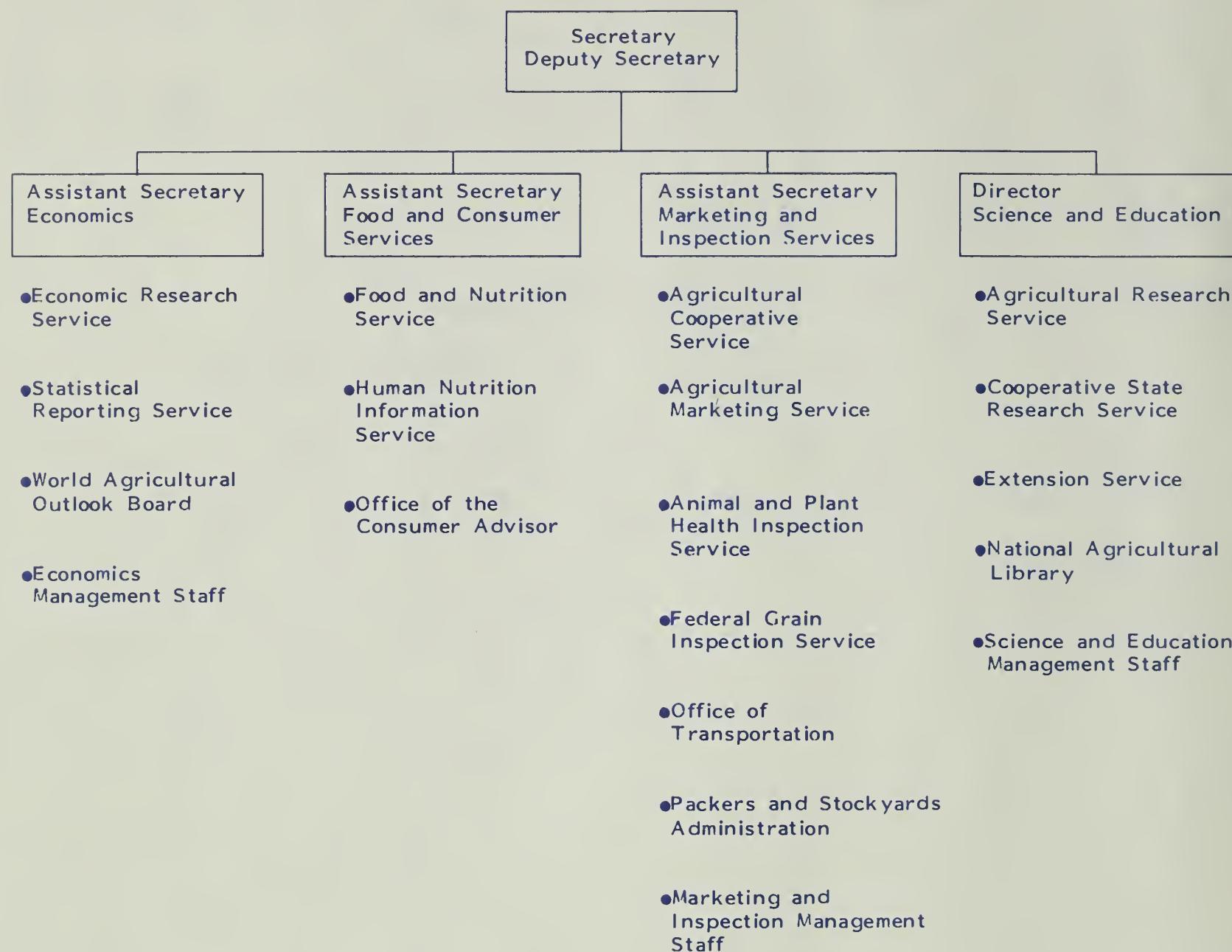


A reorganization involving several agencies of the U.S. Department of Agriculture was announced on June 17 by USDA Secretary John R. Block. The reorganization affects most of the agencies included in Food News for Consumers. The changes include the following:

- Grading functions of the Food Safety and Quality Service (FSQS) were transferred to the Agricultural Marketing Service (AMS) and FSQS was renamed the Food Safety and Inspection Service (FSIS). FSIS now focuses entirely on meat and poultry inspection. Both FSIS and AMS are under the jurisdiction of the assistant secretary for marketing and inspection services, C. W. McMillan.
- The Science and Education Administration (SEA) has been dissolved, and four new agencies formed in its place. The new agencies, the Agricultural Research Service, Cooperative State Research Service, Extension Service, and the National Agricultural Library, will each be headed by an administrator who will report to the director of science and education, Anson Bertrand.
- The Human Nutrition Center, previously under SEA, will be divided into information and research functions. A new agency, the Human Nutrition Information Service (HNIS), has been formed to handle information functions. HNIS will report to the assistant secretary for food and consumer services, Mary Jarratt, along with the Food and Nutrition Service. Nutrition research functions remain with the director of science and education.
- The Office of Consumer Affairs has been renamed the Office of the Consumer Advisor and will also report to the assistant secretary for food and consumer services.
- The Economics and Statistics Service has been divided into an Economics Research Service and a Statistical Reporting Service. Administrators of these agencies will report directly to the assistant secretary for economics, William Lesher.

A chart on the following page illustrates the organization of those programs included in Food News for Consumers.

United States Department of Agriculture*



*This is a partial organization chart that includes all the agencies contributing to Food News for Consumers.

How to Obtain Free Copies

Single free copies of press releases, Federal Register reprints, studies, fact sheets, and publications mentioned in the FSIS section of this newsletter are available from regional information offices across the country (see page 15) or from FSIS Information, Room 2957-S, USDA, Washington, D.C. 20250. Phone: (202) 447-5223.

Where to Send Comments

Send your comments on proposals in the FSIS section to: Regulations Coordination Division, Room 2637-S, FSIS, USDA, Washington, D.C. 20250. Usually two copies are requested. Be sure to identify the proposal you are commenting on by referring to the title of informal proposals or, for formal proposals, the date of publication in the Federal Register.

Tips on Writing Comments

For tips on how to give your comments more weight, write for the FSIS brochure called "Public Participation: Getting Involved in FSIS" (January 1981).

Food Safety and Inspection Service



USDA's Food Safety and Inspection Service:

- Inspects and analyzes domestic and imported meat, poultry, and meat and poultry food products;
- Establishes standards and approves recipes and labels for processed meat and poultry products; and
- Monitors the meat and poultry industries for violations of inspection laws.

USDA Proposes Change in MP(S)P Regulations

USDA has proposed changes in labeling, composition, and use requirements for "Mechanically Processed (Species) Product", or MP(S)P. The proposal was published in the July 31 Federal Register, and the public has until October 29 to comment.

MP(S)P--such as Mechanically Processed Beef Product--is made by mechanically removing most of the bone from attached skeletal muscle of livestock carcasses or parts. It differs from meat, as traditionally defined, because it also contains small amounts of bone, including bone marrow, and because it contains more of certain minerals, including calcium. It has a spread-like consistency, and may be an ingredient in many processed meat products. Current regulations require that if a product contains MP(S)P, the following phrase must be on the product label next to the product name: "With Mechanically Processed Beef (or Lamb, Veal, etc.) Product; Contains up to ___% Powdered Bone."

There has been controversy about MP(S)P since USDA published an interim rule in 1976 to allow its use. The current regulations for MP(S)P were published in the Federal Register on June 20, 1978.

In February, 1981 two industry associations--the American Meat Institute and the Pacific Coast Meat Association--petitioned USDA for changes in the MP(S)P regulations. The petition contended that current labeling requirements are misleading and compositional requirements are unreasonable, and that the meat industry is therefore effectively prevented from producing or marketing the product. Available data indicates that MP(S)P is not being used in foods sold at the retail level.

USDA has proposed changes to make it easier for processors to produce and use the mechanically processed product, while continuing to assure that meat products containing it are safe, wholesome, and accurately labeled.

Highlights of the Proposal

In the proposal published July 31:

- The name of the product would be changed from "Mechanically Processed (Species) Product" to a less burdensome and more descriptive term such as "Mechanically Processed (Species)", "Mechanically Separated (Species)", "Mechanically Deboned (Species)", or Mechanically Recovered (Species)." Alternatives submitted during the comment period will also be considered. On labels, "(species)" is replaced with the name of the species used.

MP(S)P continued

- Two categories of product would be established. One would meet the existing requirements for fat and protein content and could be used in any processed meat product unless specifically prohibited. It could be used in a greater amount than now allowed if its calcium content (a measure of bone content) were significantly reduced. The other category of product would not be subject to any requirements for fat or protein content. However, it could be used only in meat products such as hotdogs where total fat content is regulated.
- The presence of the mechanically processed product would no longer have to be declared on product labels next to the name of the finished product.
- Labels of certain foods containing the product would have to declare calcium content. Current regulations require labels of all meat products containing MP(S)P to show the content of powdered bone.

Under the proposal the mechanically processed product would continue to be:

- Declared in the ingredient statement;
- Subject to limits on bone particle size, calcium content (as a measure of bone content) and protein quality;
- Processed under appropriate handling controls and a USDA-approved quality control program;
- Prohibited in certain products, such as baby foods.

For more information: Press Release #962-81 (7-30-81); and a background paper on Mechanically Processed Meat Product (August 1981).

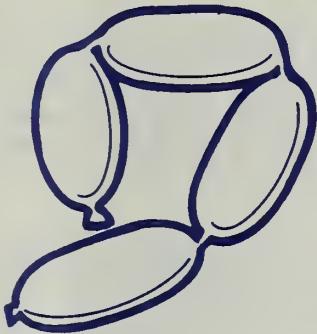
Houston Testifies at Food Safety Hearing

Dr. Donald Houston, administrator of USDA's Food Safety and Inspection Service, testified on June 23 before a House Agriculture Subcommittee hearing on proposed changes in food safety laws. Houston explained that USDA shares responsibility for food safety regulation with the Food and Drug Administration and the Environmental Protection Agency.

Houston discussed the agency's problem in regulating nitrite, which he said highlighted not only the need to be able to consider benefits as well as risks, but also the need to have regulatory options for dealing with hazardous or suspect substances. Although nitrite was a suspected carcinogen, its antibotulinal properties offered public health benefits. To make rational decisions about a substance like nitrite, regulators need to have regulatory options other than initiating an immediate, outright ban, Houston said. For example, he said, when substitutes for a substance are difficult to develop, it would be useful, depending upon the risk and the populations involved, to be able to phase out use of a hazardous substance or to permit continued use with warning labels. A more flexible standard would help the agency implement the law rationally without exposing the public to serious adverse health or economic threats.

Specific recommendations for improving present laws included allowing regulators to consider benefits as well as risks in the decision-making process; providing regulators with a variety of options for dealing with hazardous substances; and offering some guidance on how scientific evidence should enter into the regulatory process.

New Proposal for Liver Sausage and Braunschweiger



A new USDA proposal would allow meat processors more latitude in preparing liver sausage (or liverwurst) and braunschweiger products, according to Dr. Donald L. Houston, administrator of the Food Safety and Inspection Service.

"Amending the standards would allow processors to adjust ingredients in these products without changing the basic characteristics of the products," he said.

The proposal would: allow braunschweiger and liver sausage to be made without pork; allow the use of fresh or frozen pork, beef or veal; permit the use of veal livers; and clarify that beef fat is allowed. Because of the elimination of the pork requirement, processors could make products from only one livestock species. These products would have to be labeled as such; for example, "Beef Braunschweiger," "Pork Liver Sausage."

The proposal would also recognize "Liverwurst" as another name for "Liver Sausage Product" and would clarify that braunschweiger must have a smoked taste from the use of smoked meats, smoke flavoring or smoking.

Under the Federal Meat Inspection Act, USDA sets standards for meat products. Standards specify the minimum amount of meat that must be in a product, and they may also list other required or optional ingredients or processing procedures.

The proposal was published in the July 10 Federal Register, available in local libraries. Written comments may be sent until Sept. 9 to the Regulations Coordination Division, Attn: Annie Johnson, FSIS, Rm. 2637-S, USDA, Washington, D.C. 20250.

Enforcing the Laws

grading service withdrawn

The following are some recent actions taken by FSIS to protect the nation's food supply.

USDA withdrew federal meat grading and certification services from Mirman Brothers, Inc., Washington, D.C., for six months, effective July 1, after the firm was found guilty of delivering beef and pork products accompanied by false certificates to D.C. General Hospital. The firm falsely represented that the products had been officially certified by USDA graders for conformance with contract specifications. (FSIS Release 6-9-81).

adulterated beef

Howard W. Franklin, owner of Little Pack Meat Processing, Fort Collins, Colo., has been permanently enjoined by the U.S. District Court, Denver, from preparing, selling, transporting or offering to sell or transport any meat products without complying with the Federal Meat Inspection Act. The court action was initiated after a USDA compliance officer documented reports that the plant facilities were not sanitary causing meat products to become adulterated. (FSIS Release 6-9-81).

inspection service withdrawn

A USDA complaint against Oklahoma Beef and Provision Co., Inc., Nowata, Okla., has been dismissed by USDA Administrative Law Judge John Liebert. The judge said that the complaint, to withdraw inspection service from the firm, was no longer appropriate since Oklahoma Beef had already voluntarily requested that service be withdrawn and USDA agreed to the request in 1980. The complaint was originally filed because of the firm's four felony convictions for preparing, selling, and transporting adulterated and misbranded meat products with intent to defraud. The firm was fined \$4,000 and placed on one year probation and its president was fined \$2,000 and placed on 6 months probation. USDA appealed the Administrative Law Judges's decision to the USDA Judicial Officer. Judicial Officer Donald Campbell ordered that Judge Liebert reconsider his original opinion. (FSIS Release 6-2-81).



Enforcing the laws
continued
**misbranded beef
products**

Harrisonburg Fruit and Produce Co., Roanoke, Va., and its former plant manager were each fined \$2,250 for preparing and selling adulterated and misbranded beef products, a violation of the Federal Meat Inspection Act. The fines were imposed in U.S. District Court, Roanoke, after the firm and the manager pled guilty. (FSIS Release 5-18-81).

**frozen meat products
recalled**

Two frozen meat products--frozen beef patties and sausage pizza--sold only in Wisconsin were voluntarily recalled by the manufacturers because they contained contaminated mushrooms. No illnesses were reported. The products "Munch More Pizza," and frozen beef patties were sold to restaurants and institutions by Nelson Steak Co., Milwaukee. (FSIS Release 3-31-81).

uninspected meat

Fichtner's Sausage and Meats, Duluth, Minn., has been directed by a U.S. District Court in Minneapolis not to sell or transport uninspected meat products in the Silver Bay and Duluth areas. Court action was initiated by USDA after the firm failed to comply with inspection requirements even after receiving a warning letter. (FSIS Release 3-30-81).

**withdrawal of
grading service**

USDA withdrew federal meat grading and certification services from Landmark Beef Processors, Inc., Los Angeles, Calif., for 30 days effective June 9. In addition, the services will remain withdrawn for an additional 11 months in the firm's steak department. The order was issued by a USDA Administrative Law Judge based on violations of Agricultural Marketing Act. The violations included mixing other meat products with steaks prepared and delivered under Department of Defense contracts during May and June 1979 and fraudulently packing the product to avoid detection by USDA meat graders who certified it for the military. (FSIS Release 5-15-81).



What's New from FSIS

**Labels on Meat and
Poultry Products**

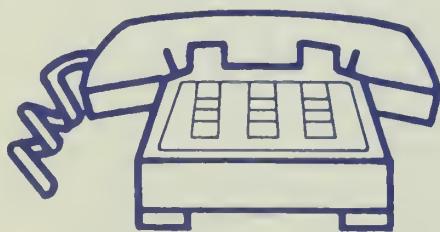
This pamphlet provides the facts about what information USDA requires or permits on labels of meat and poultry products. It also describes how to use meat and poultry product labels. Ask for Agriculture Information Bulletin 443 (April 1981).

**How to Buy
Economically: A
Food Buyer's Guide**

This pocket-size booklet is designed to help food shoppers save money. It offers tips for buying meat, poultry, eggs, nonfat dry milk, and fruits and vegetables, and includes several helpful charts. Ask for Home and Garden Bulletin 235 (April 1981).

**How to Save Money
with Large Cuts of
Meat**

Subprimals--large cuts of meat--are a good way to save money if shoppers know how to handle them. This fact sheet gives tips on buying, cutting up, storing, and using these large cuts. Ask for AFS 6-4-1 (April 1981).



If you have a question or a problem with the safety or wholesomeness of a meat or poultry product, the truthfulness of its labeling, contact FSIS Consumer Inquiries, USDA, Washington, D.C. 20250 or call (202) 472-4485.

Other FSIS News

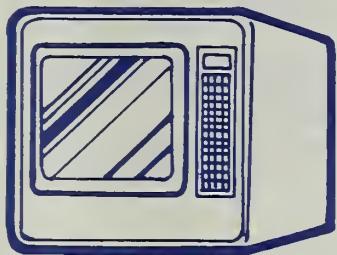
USDA proposes new grade standards for gladiolus bulbs. Press Release #523-81 (4-28-81).

USDA to permit bacon manufacturers to use faster nitrosamine test. Press Release #537-81 (4-30-81).

Arkansas turns meat inspection program over to USDA. Press Release #532-81 (4-30-81).

USDA proposes seven grade standards for olives. Press Release #553-81 (5-5-81).

USDA advises consumers to microwave pork to uniform 170 degrees fahrenheit. Press Release #576-81 (5-8-81).



USDA proposes denying grading services to California produce firm. Press Release #592-81 (5-13-81).

USDA seeks comments on interim poultry inspection rules. Comment period ended 7-13-81. Press Release #593-81 (5-13-81).

USDA proposes revised standards for mixed nuts. Press Release #607-81 (5-15-81).

USDA raises retail sales exemption for meat, poultry. Press Release #606-81 (5-15-81).

USDA withdraws proposal to combine standards for shelled peanuts. Press Release #681-81 (5-29-81).

Idaho gives USDA responsibility for meat inspection. Press Release #678-81 (5-29-81).



USDA to commemorate 75th anniversary of inspection stamp. Press Release #695-81 (6-2-81).

Block announces FSQS-AMS reorganization. Press Release #713-81 (6-5-81).

Houston announces reorganization of USDA's Food Safety and Inspection Service. Press Release #780-81 (6-18-81).

September national food safety meeting to be held at USDA. Press Release #799-81 (6-23-81).

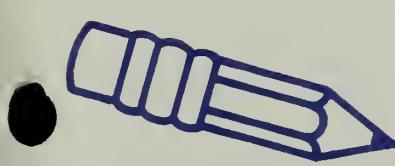
USDA proposes change in requirements for braunschweiger and liver sausage. Comment period ends 9-9-81. Press Release #879-81 (7-13-81).

USDA revises staffing requirements for cattle inspection. Comment period ends 9-14-81. Press Release #888-81 (7-14-81).

New inspection mark adopted to identify imported horsemeat. Press Release #918-81 (7-20-81).

USDA proposes changes in marking of certain meat products. Comment period ends 9-29-81. Press Release #964-81 (7-29-81).

USDA proposes changing requirements for mechanically processed meat product. Comment period ends 10-29-81. Press Release #962-81 (7-30-81).



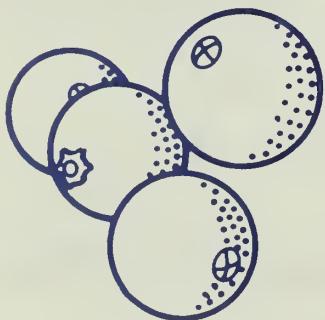
Agricultural Marketing Service



USDA's Agricultural Marketing Service:

- Gathers and disseminates current information on prices, supplies, and other market data;
- Provides cotton and tobacco standardization, inspection, grading, and testing services on request;
- Administers several regulatory programs designed to protect producers, handlers, and consumers from careless, deceptive, or fraudulent marketing practices;
- Administers marketing agreement and order programs to help establish and maintain the orderly marketing of milk, fruits, and vegetables;
- Provides patent protection to developers of certain novel plant varieties;
- Monitors industry-sponsored and -financed research and promotion programs;
- Inspects and analyzes liquid, dried, and frozen egg products;
- Establishes grade standards for fruits, vegetables, meat, poultry, eggs, and dairy products, and provides grading services for these foods on request; and
- Buys food for the USDA school lunch program and other food assistance programs.

Public Being Heard on Navel Orange Marketing



By the July 10 deadline, USDA had received 91 comments in response to a request in May for the public's views on marketing of the 1980-81 navel orange crop.

Marketing of the 1980-81 record-large crop was accompanied by a great deal of controversy over how it was carried out under the federal marketing order for California-Arizona navel oranges.

Along with the opportunity to send USDA written views, the public was given a chance to testify at a July 20-27 public hearing in Exeter, California. The information will be used to help guide future policy on the marketing order.

A verbatim record of the hearing may be viewed in Rm. 2532-S, 14th and Independence SW, Washington, D.C. (telephone 202/447-5975), or at Suite 540, 845 S. Figueroa St., Los Angeles, Cal. 90017; (telephone 213/688-3190).

Marketing Orders Being Reviewed

A team that Secretary of Agriculture John Block appointed in May to review marketing orders is expected to complete its work in the fall and issue a report. As part of its review, the team is accepting public comments on marketing orders until Sept. 1.

The five-member team will focus its attention on regulations that implement the 48 marketing agreement and order programs for fruits, vegetables, and related crops like nuts. Special attention is being given to those rules that enable agricultural industries to control how much of a commodity is marketed through such means as reserve pools, producer allotments, rate-of-flow provisions, and shipping holidays.

Seven advisors are aiding the team, and representatives of producers, handlers, and consumers are being consulted.

Review continued

The review was called for by the President's Task Force on Regulatory Relief, which has a goal to eliminate unneeded regulations or those that hamper productivity.

The team's report will discuss various legislative and administrative options that could be followed, with probable effects of each on producers, handlers, and consumers.

Send comments to Richard Heifner, AMS, Rm. 3063-S, USDA, Washington, D.C. 20250. A summary should accompany statements longer than ten pages.

Food Marketing Alert Available

The Agricultural Marketing Service issues its "Food Marketing Alert" to keep food buyers--large and small--advised on the expected food supply situation. In Food Marketing Alert, supplies of various food items are listed as plentiful, adequate, or light. Monthly issues--along with special issues advising that certain foods are in temporary oversupply--are distributed to the news media. Consumers should watch for this information in newspaper food pages, consumer broadcast programming, and Cooperative Extension Service bulletins.

USDA also distributes Food Marketing Alert to people who communicate with consumers, but not to individual consumers. For a sample copy and order blank, write: Information Division, AMS, Rm. 2638-S, Washington, D.C. 20250.

Economic Research Service

USDA's Economic Research Service:

- Analyzes international activities of agricultural significance;
- Does research on commodities, food and nutrition, natural resources, and rural development; and
- Furnishes timely and objective economic and statistical information to farmers, other rural Americans, industries, consumers, and policy-makers.

Health Foods: A Growing Industry

A growing consumer demand for health foods is leading more and more supermarkets to add health food departments to their operations. This year, Safeway--the nation's largest supermarket chain--plans to add health food departments to over 200 stores.

Industry figures show that the health food industry has grown from 1,000 stores with \$140 million in sales in 1970 to 6,600 stores with over \$1.6 billion in sales in 1979.

Who's buying health foods? According to USDA researchers, most are in the age groups of 25-34 and 50-64, college educated, with above average income.

The Foods We Eat—And Don't Eat

Over 95 percent of American households don't eat veal, lamb, or frozen fruits.

What We Eat continued

These are a few of the findings from an Economic Research Service analysis designed to determine the portion of the population not eating certain foods.

Items shunned by over 90 percent of the nation's population included processed eggs, meat substitutes, dips, and frozen potatoes.

The survey overwhelmingly showed that fresh foods are still purchased by more households than processed foods. Of the 12 most avoided foods in the survey, only lamb and veal were not highly processed. In contrast, three of the foods consumed by the largest portion of households were highly unprocessed--beef, eggs, and fresh milk. Bread was the only processed food that was consumed by over 90 percent of the surveyed households.

Packaging Costs



Packaging and container costs for food and beverages often exceed the value of the food ingredient inside.

Beer packaging value is more than 5 times the value of the food component. Ready-to-mix desserts, potato chips, table syrups, chewing gums, and soft drinks have a packaging value twice that of the food ingredient.

Breakfast cereals, soups, baby foods, frozen entrees and desserts have a packaging cost 1 1/2 times greater than the actual content.

The packaging for cake mixes, condiments, wines, cookies, and crackers amounts to about 90 percent of the food value. Red meats, raw produce, cheese, sugar, and butter packaging value is only 3 to 7 percent of the food ingredients.

On average, about \$1 out of \$11 consumers spend on food and beverages goes to packaging and containers.

Food and Nutrition Service

USDA's Food and Nutrition Service:

- The food stamp program;
- The national school lunch and school breakfast programs;
- The special supplemental food program for women, infants, and children (WIC); and
- The food distribution, child care food, summer food service, special milk, and food service equipment assistance programs.

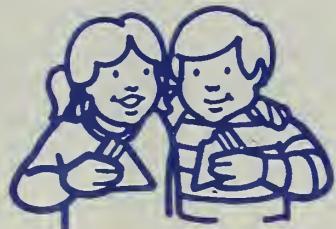
Food Stamp Eligibility Raised 13 Percent



USDA announced that food stamp eligibility limits went up 13 percent for the period July 1, 1981 through June 30, 1982. This rise reflects an increase in the cost of living. The income eligibility limits are based on the poverty line set by the Office of Management and Budget.

After allowable deductions are taken, the maximum net income a family of four may have and still qualify for food stamps increased from \$621 to \$705 per month. The maximum gross income for a family of four without elderly persons rose from \$1,026 to \$1,131 per month.

USDA Publishes Report on School Lunch Program



According to a report recently issued by USDA, American school children paid only about one third of the cost of their school lunches last year. The report shows that school lunches cost local school food authorities between \$1.36 and \$1.66 to prepare and children in the spring of 1980 paid an average of 56 cents per lunch. Roughly half of the cost of a meal is for food and 34 to 40 percent is for labor.

The report was published in response to Senate Resolution 90 (June 1979) which asked USDA to look into the cost, participation, and nutritional impact of its school-based programs. The study, which covered school lunch, breakfast, and special milk programs, gathered data from over 2000 school districts nationwide.

A more complete treatment of the issues of nutritional impact, income and family composition of participants, targeting of program benefits, and impact on the agricultural economy (all based on recently completed or ongoing studies) will be reported later this year.

Food Bank Demonstration Project



USDA is soliciting applications from food banks to participate in a demonstration project to test the feasibility of providing USDA-donated foods to families during emergencies. Applications are being sought from food banks that have been providing emergency food distribution since March 1980.

The demonstration project is expected to begin Oct. 1 and will not exceed one year.

Under the demonstration project, USDA-donated foods will be made available to a small number of participating food banks. The items to be provided include instantized non-fat dry milk, butter, and process American cheese. These items will be used to supplement foodstuffs obtained by food banks from other sources.

The project is being conducted for the following reasons: to analyze and evaluate federal participation in food bank emergency food programs; to assess the effectiveness of such participation; and to make recommendations on the feasibility of continuing such participation.

During the project, participation data, as well as food donation and inventory data will be reviewed. The department will also be looking at transportation and delivery costs. The results of the evaluation will be reported to Congress by Oct. 1, 1982.

Food banks are tax-exempt organizations that provide food to households, for home consumption, on an emergency basis. Food banks ordinarily operate on the local level through community organization.

The department has distributed information on the project to over 1600 emergency food assistance outlets.

Alternative Commodity Donation Systems to Be Tested



During the next four years, USDA will test two alternative methods for donating agricultural commodities for the school lunch program. Some 90 schools are expected to participate--30 will test the first alternative; 30 will test the second; and 30 will serve as control sites and will continue to operate under the current regulations. All 90 schools will be selected by the end of August.

Under the first alternative, cash will be provided to schools instead of the commodities themselves. The cash will equal the value of commodities the school would be entitled to under the commodity donation program. Under the second alternative, schools will receive letters of credit that allow them to purchase specific food items from local sources.

The purpose of the study is to examine the cost effectiveness of the two alternatives. The study will examine: the impact of the alternatives on food procurement patterns, the effect on school lunch quality and participation, the impact on USDA price support and surplus removal programs, and the administrative feasibility of the alternatives.

The project will begin in September 1981 and will be evaluated during the first three years. USDA will report to Congress on the project by Dec. 15, 1984.

Agricultural Research Service

USDA's Agricultural Research Service:

Conducts research to fulfill the diverse needs of agricultural users--from farmers to consumers--in the areas of:
•Crop and animal production, protection, processing, and distribution;
•Food safety and quality;
•Natural resources conservation.

Canning Guidelines Determined for Vegetable Combinations

A computerized data bank will provide home canners with information on the acidity of various foods and food mixtures. USDA scientists developed the data bank to help assure the safety of home canned foods.

Selection of safe and appropriate home canning procedures requires knowledge of the acidity of the food because low acidity may permit the growth of

Canning Guidelines continued

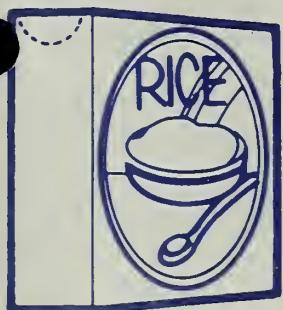


dangerous botulism-producing organisms. While the acidity of individual foods is well known, there previously has been no information for determining the acidity of vegetable mixtures or combinations of vegetables and meat.

Included in the data bank are 450 recipes, mostly for tomato-based products such as vegetable juices, meatless tomato sauces, barbecue sauces, spaghetti and marinara sauces, and chili con carne.

This canning-acidity information is being made available to State Cooperative Extension Services for developing educational programs and for answering inquiries from the public.

Cell Culturing Increases Nutritional Value of Rice



USDA scientists have developed a nutritionally-improved rice that has 10 percent more lysine - an essential amino acid - than ordinary rice. The experimental rice was developed by tissue culturing, a laboratory technique in which complete plants are produced from as few as one or two plant cells.

Rice and other cereal grains such as corn and wheat have very low levels of the amino acid lysine. Amino acids are the building blocks of proteins. Lysine and eight other amino acids are called essential amino acids because they must come from the diet -- they cannot be manufactured by the human body from other substances.

A low level of lysine in the diet limits the overall nutritional value of the protein consumed because the deficiency limits the ability of the body to use other amino acids.

The new rice is probably the first significant nutritional improvement in the seed of a major crop achieved through cell culturing. The experimental rice will be cross-bred with commercial rice varieties.

New Cold-Hardy Hybrid Oranges May Reduce Costly Freeze Damage

When a freeze hits Florida, orange producers and consumers suffer in the pocketbook. But research on new hybrid citrus may change all that. USDA scientists are breeding cold resistance into U.S. orange trees by crossing them with some hardier Australian and Chinese relatives.

One line of cold-hardy hybrids now being developed withstood 14°F. --temperatures equal to those that caused so much damage to Florida orange groves last January. Offspring of the desert lime tree of Australia, the hybrids may profit not only from the tree's cold-hardiness but also from its drought and disease resistance.

Cold-Hardy Oranges continued

Another new line of hybrids is being developed using a cold-hardy Chinese citrus. For the first time USDA researchers have been able to produce fruit that tastes similar to sweet oranges from offspring of this Chinese variety.

If another cross has to be made to improve the quality of the fruit, it may be five to ten years before you see these new cold-resistant varieties of oranges in your local supermarket. That may not be necessary, however, if the fruit now being produced proves acceptable.

Cooperative State Research Service

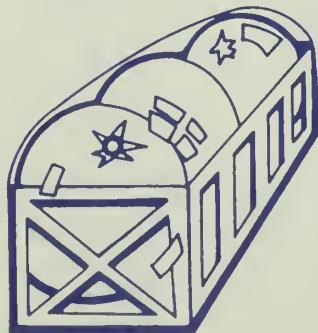
USDA's Cooperative State Research Service:

- Administers federal funding for research at the agricultural experiment stations for the 50 states, Puerto Rico, Guam, the Virgin Islands, the District of Columbia, Micronesia, and America Samoa; approved schools of forestry; the 1890 land-grant institutions and Tuskegee Institute; colleges of veterinary medicine; and at other eligible institutions.
- Plans and coordinates federal-state research programs, and encourages cooperation among the states and between the states and their federal research partners.
- Administers the Competitive Research Grants Program which supports basic research in human requirements for nutrients, food production, agriculture and related areas.

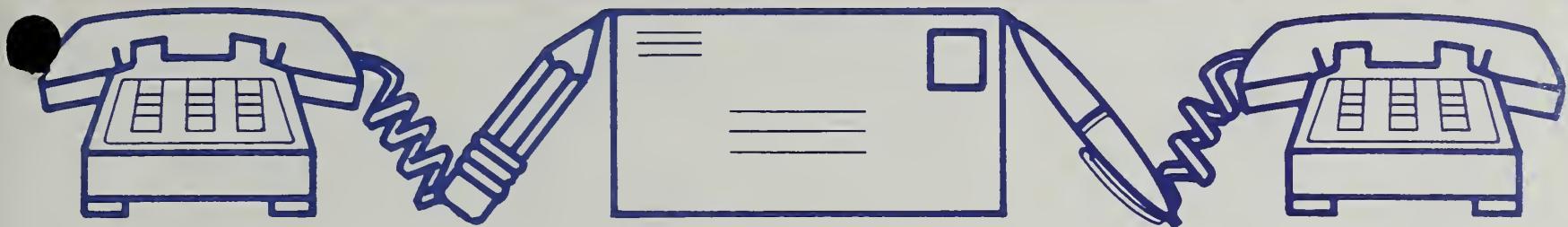
Gases Lengthen Shelf Life of Packaged Foods

It may be possible to preserve the fresh quality and taste of raw foods for several months without refrigerating or canning. Maryland Agricultural Experiment Station scientists have developed GASPAK, a new method of packaging fresh fruits and vegetables.

Various gases are pumped into food-filled plastic packages, creating a miniature controlled environment in the GASPAK. The gases slow down food spoilage by limiting enzymes that discolor, soften, and liquify fruits and vegetables.



So far the method has been used to preserve peeled and sliced apples and potatoes for almost a year. Future research will determine what kinds of foods can be preserved with this method and what gases will be needed to do this. GASPAK may open the way for a whole new line of ready-prepared foods that will retain all the qualities of fresh products and will have a long shelf-life without the need of refrigeration.



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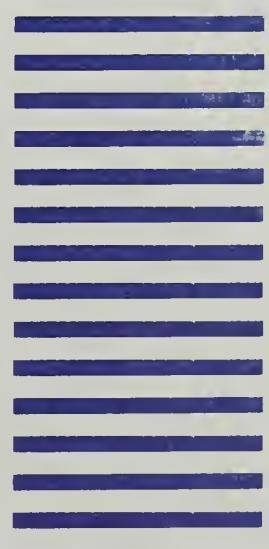
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